Trakeabronşial Cerrahide Tek Akciğer Ventilasyonunda Pezzer Kateter Kullanımı

Pezzer Catheter to Provide One-Lung Ventilation During Tracheobronchial Surgery

Trakeabronşial Cerrahi / Tracheabronchial Surgery

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Özet

Amaç

Tek akciğer ventilasyonu insanlarda köpeklerde torasik cerrahi ve büyük damar ameliyatlarında yaygın bir şekilde kullanılmaktadır. Endobronşial tüpler ,blokerlar ve tek lümen tüpler sıklıkla tek akciğer ventilasyonu sağlamak için kullanılır.

Materyal ve Metod

Konvansiyonel tek akciğer ventilasyonu torasik işlemlerde rutin olarak kullanılmaktadır. Biz burada trakea bronşial rezeksiyonlarda distalde kalan akciğerin havalanması için köpeklerde pezzer kateter kullanımını sunduk. Bronşun yada trakeanın boyutuna uygun bir Pezzer kateter seçilir kateterin uzunluğu ayarlanarak kesilir. Kateterin baş kısmı ise deliklerinin ortasından geçecek şekilde kesilir.Kateterin baş kısmı proksimal anastamoz hattından içeriye doğru bir klemple sıkıştırılarak ittirilir. Klemp proksimal bronş yada trakea içinde açılınca Pezzer kateterin başı lümene oturur. Kateterin alt kısmı distal hava yoluna yerleştirilir. Dikişler yerleştilir. En son iki dikiş düğümlenmeden kateterin esnekliğinden faydalınılarak kateter son iki dikişin arasından çekilerek çıkartılır. Son düğümler atılır.

Sonuç

Hiçbir komplikasyon gelişmeden uygulama yapıldı. Uygulama sırasında ortalama Oksijen konsatrasyonu %95 ve end tidal karbondioksit konsantrasyonu %37-41 düzeylerinde kaldı. Ventilatör ayarlarında hiçbir değişiklik yapmamız gerekmedi.

Tartışma

Tek akciğer ventilasyonu trakeabronşial rezeksiyonlarında oldukça gerekli bir yöntemdir. Bizim denediğmiz Pezzer kateter uygulamasını oldukça kullanışlı ucuz ve pratik olduğu için öneriyoruz.

Anahtar Kelimeler

Trakeabronşial Cerrahi, Pezzer Kateter, Akciğer Ventilasyonu

Abstract

Aim

One-Lung Ventilation (OLV) is widely used in a variety of cardiac, thoracic, and major vascular procedures to ventilate an isolated lung field in humans and dogs. Endobronchial tubes, endobronchial blockers, and single-lumen tubes are commonly using equipments for OLV.

Material and Methods

Conventional one-lung intermittent positive-pressure ventilation (OL-IPPV) has been a valuable technique during anaesthesia for intrathoracic operations in humans and dogs. Here, our experience resulted in the usage of Pezzer catheter to establish OLV in dogs, while performing tracheobronchial resection. OLV was successfully established with Pezzer catheter in 12 dogs. All application was performed by the same surgeon. An optimal diameter Pezzer catheter was selected to insert into the lumen of the trachea and the main bronchus. The length of the catheter was prepared and middle point of the head of the catheter was cut at the level of holes on it. Following tracheobronchial resection, the cut head was inserted into the trachea with a clamp and end of the catheter was instantly inserted the main bronchus (Figure 1). Sutures were prepared interruptedly and passed between the trachea and the main bronchus. Before sutures were started the ligation tightly, Pezzer catheter was removed in the lumen and than ligations were completed.

Results

No accidental episode was encountered during the manipulation. OLV was successfully established, and the mean oxygen saturation range and end tidal carbon dioxide concentration was 95% and 37-41% before and after insertion of the Pezzer catheter, respectively. The respiratory modes during the surgery were not need to change.

Discussion

OLV is essential in the tracheaobronchial resections. Here, the Pezzer catheter is presented to obtain OLV. It has been concluded that Pezzer catheter is a very practical and reliable method and it can be choice for cases which require OLV.

Keywords

Tracheabronchial Surgery, Pezzer Catheter, Lung Ventilation

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Introduction

One-lung ventilation (OLV) allows isolation and immobilization of one lung or of a selected part of the lung [1]. OLV is widely used in a variety of cardiac, thoracic, and major vascular procedures to ventilate an isolated lung field in humans and dogs [2-3]. Endobronchial tubes, endobronchial blockers [1], and single-lumen tubes are commonly using equipments for OLV. Patients had narrow airways or intrinsic lung disease have special challenges for lung isolation; therefore, per-operative hypoxia and hypercapnia frequently complicate the OLV [1-2-4].

Technique

Conventional one-lung intermittent positive-pressure ventilation (OL-IPPV) has been a valuable technique during anaesthesia for intrathoracic operations in humans and dogs [3-5]. It has been associated with a high incidence of hypoxemia [1-4], as a result of the associated intrapulmonary shunt of 21% to 65% of cardiac output. High frequency jet ventilation (HFJV) is another method for ventilation that it provides a good surgical field and decreases the surgical complications [5]. Here, our experience resulted in the usage of Pezzer catheter to establish OLV in dogs, while performing tracheobronchial resection. OLV was successfully established with Pezzer catheter in 12 dogs. All application was performed by the same surgeon. An optimal diameter Pezzer catheter was selected to insert into the lumen of the trachea and the main bronchus. The length of the catheter was prepared and middle point of the head of the catheter was cut at the level of holes on it. Following tracheobronchial resection, the cut head was inserted into the trachea with a clamp and end of the catheter was instantly inserted the main bronchus (Figure 1). Sutures were prepared interruptedly and passed between the trachea and the main bronchus. Before sutures were started the ligation tightly, Pezzer catheter was removed in the lumen and than ligations were completed. No accidental episode was encountered during the manipulation. OLV was successfully established, and the mean oxygen saturation range and end tidal carbon dioxide concentration was 95% and 37-41% before and after insertion of the Pezzer catheter, respectively. No cardiorespiratoric complication was encountered while performing the procedure. The respiratory modes during the surgery were not need to change.

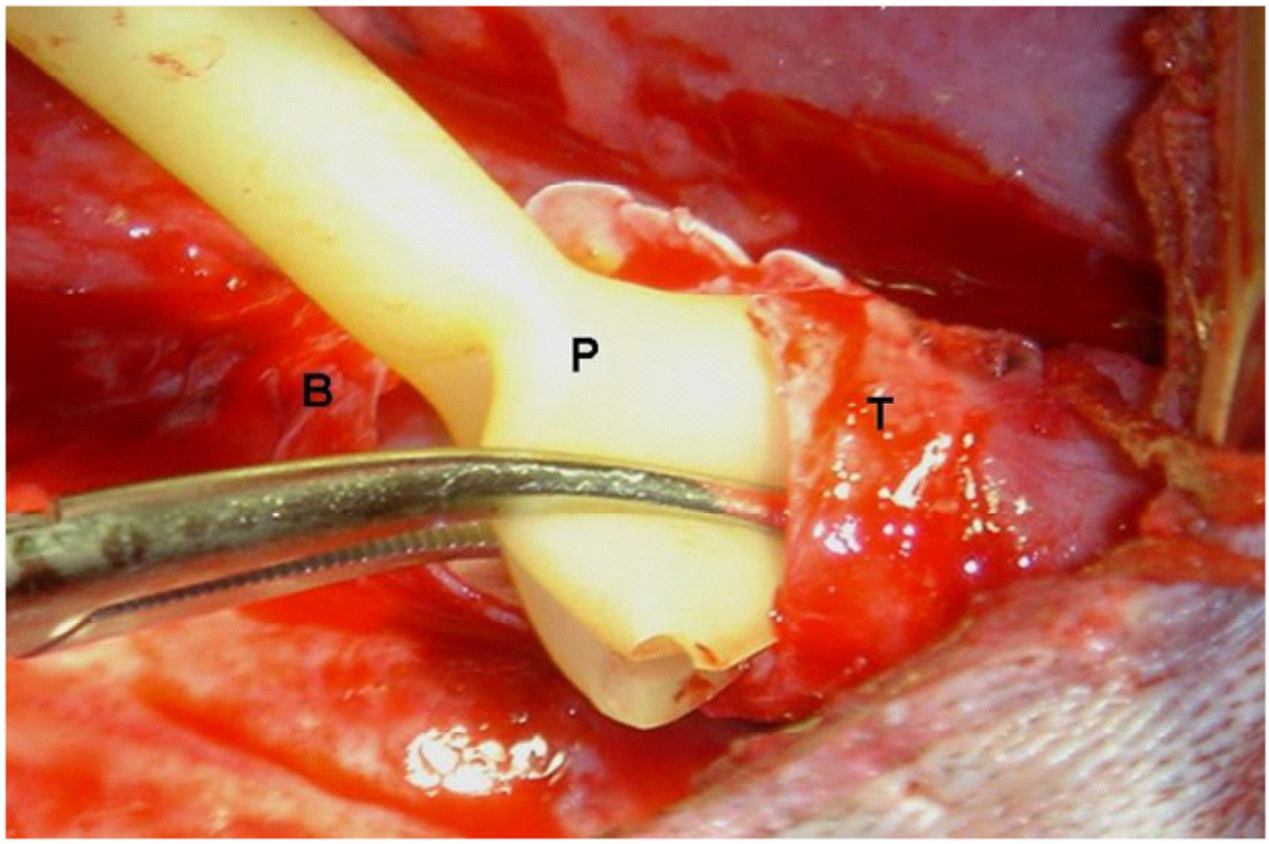

Figure 1. Insertion of the Pezzer catheter (P) between the trachea (T) and the main bronchus (B).

Conclusion

In summary, OLV is essential in the tracheaobronchial resections. Here, the Pezzer catheter is presented to obtain OLV. It has been concluded that Pezzer catheter is a very practical and reliable method and it can be choice for cases which require OLV.

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